Army Aviation - Logistics For The Warfigh

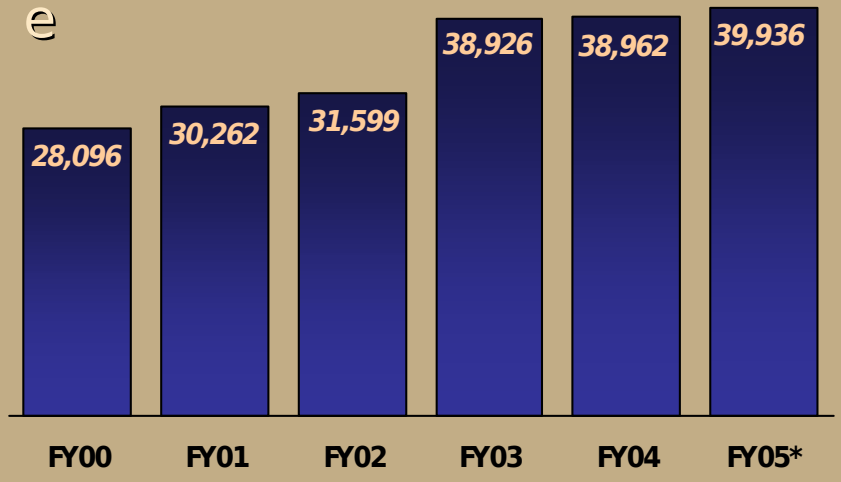
Dr. Thomas Pieplow
Associate Director for Aviation, AMCOM

Challenges We Face

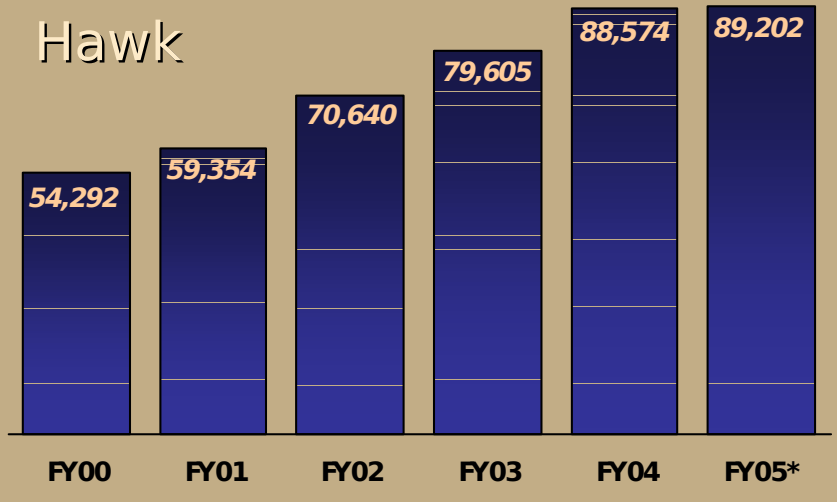
Demands will increase from FY04 rates … which were an all time high

Aviation Will Always Be A Key Component

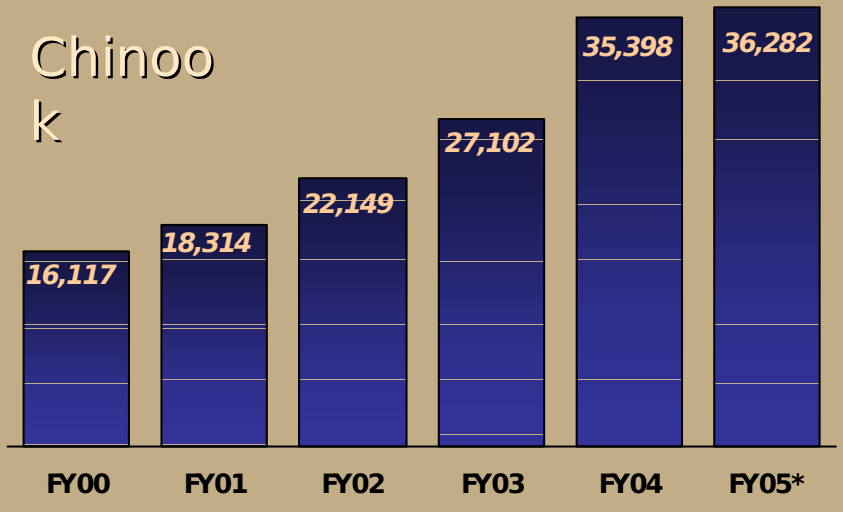
Apache



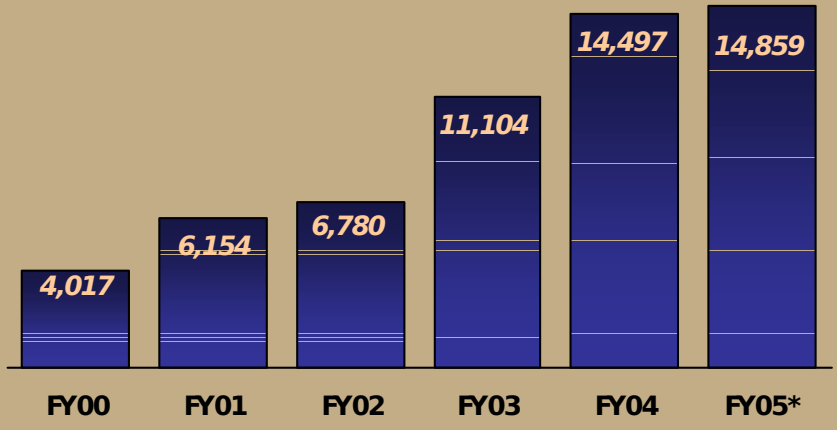
Black Hawk



Chinook



Kiowa Warrior



* Projected

Demands

Demands Continue to Increase
FY05 Projects 2% Higher Than FY04 and Growth Since Sep 11 Over 65%

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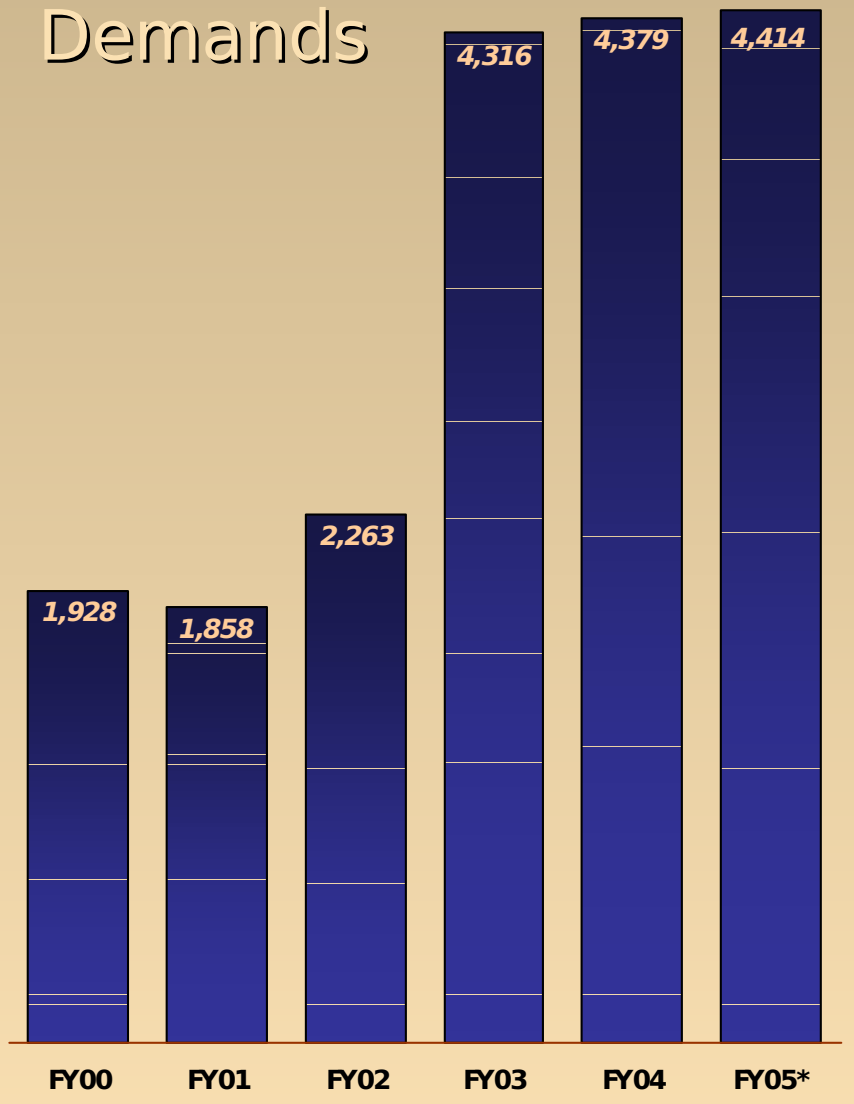
Battle damage,
right wing

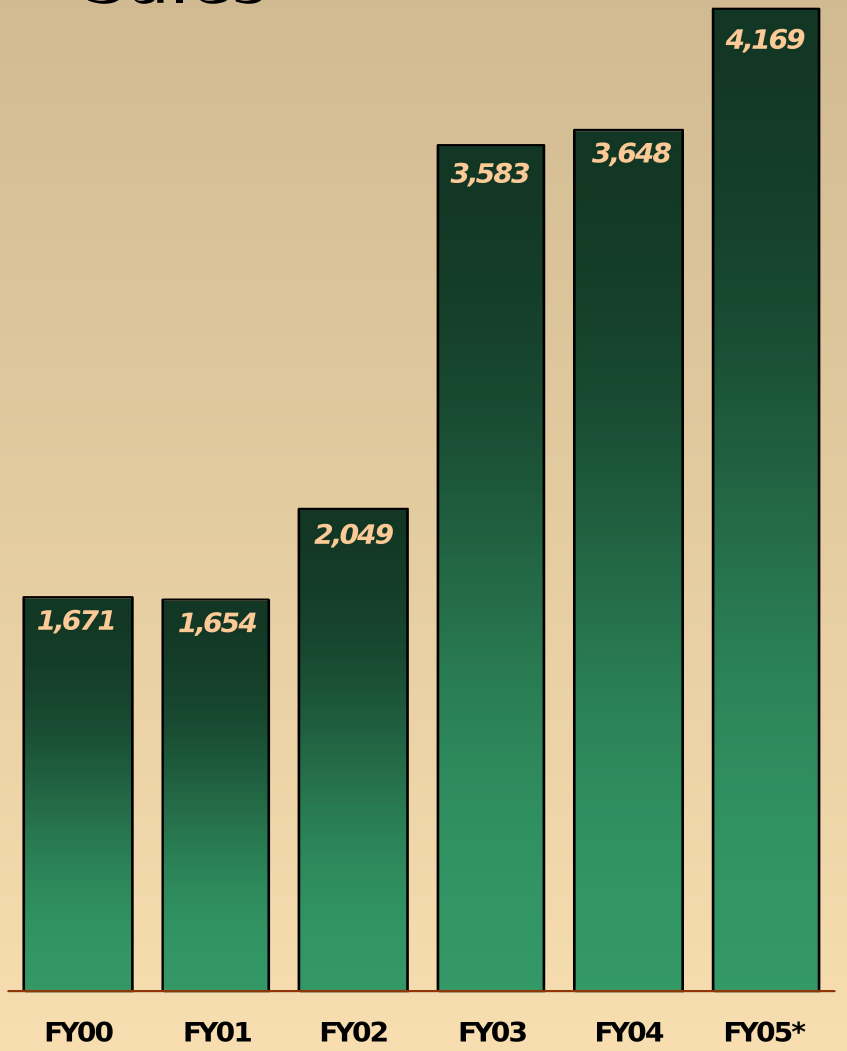
No Matter How You Measure, Aviation Is The Backbone Of Support

$M

Demands



Sales



* Projected

Army Fleet in OIF

511,276 Total Hours:
01 Feb 03 – 28 Feb 05

AH-64 (143)
96,750 Hours
MC: 88%
OPTEMPO:28

(254) **UH-60**
179,726 Hours
MC: 86.6 %
OPTEMPO: 33.8

CH-47 (44)
32,140 Hours
MC: 72.8%
OPTEMPO: 30.6

(30) ***Fixed Wing***
31,982 Hours
MC: 86.6%
OPTEMPO: 43.9

OH-58 (80)
134,939 Hours
MC: 80.4%
OPTEMPO: 73.3

UAV
(12) Shadow 21,205 hrs
(1) Hunter 8182 hrs
(1) I-GNAT 3997 hrs
(122) Raven 2355 hrs
35,739 Hours

OPTEMPO Significantly Higher than Peacetime

Army Fleet in OEF

73,087.7 Total Hours:
01 Feb 03 – 28 Feb 05

AH-64A (19)
28,530 Hours
MC: 82%
OPTEMPO: 56

(37) UH-60
14,031 Hours
MC: 76.4%
OPTEMPO: 38.1

CH-47 (23)
20,759 Hours
MC: 82%
OPTEMPO: 43.6

(13) Fixed Wing
5823 Hours
MC: 86.8%
OPTEMPO: 48.9

UAV (6 Raven)
531.7 Hours

(16) OH-58
3413 Hours
MC: 83%
OPTEMPO: 48.3

OPTEMPO Significantly Higher than Peacetime

186

Challenges We Face

Demands will increase from FY04 rates … which were an all time high

Support for OEF/OIF units has been exceptional, but improvements must extend to all aviation customers

AVAILABILITY IMPACTED BY FUNDING SHORTFALLS

$'s Invested

$385.1	$577.3	$639.5/$880.9	$1033.2	$1219.8	$2905.1	$2811.2
FY97 Short $187 M	FY98 Short $32.5M	FY99/00 Short $3.9M	FY01 Short $162M	FY02 Short $309.6M	FY03 Short $402.6M	FY04 Short $174.0M

$ B

	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04
*OH Servicable	1.574	1.584	1.379	1.208	1.087	1.227	0.972	1.238
Stock Due-Out	0.188	0.223	0.301	0.417	0.483	0.595	0.879	0.891
Demands	2.005	1.355	1.361	1.928	1.858	2.263	4.316	4.379
Fill Rate	77.7%	79.7%	79.7%	75.9%	74.4%	75.6%	67.2%	71.2%

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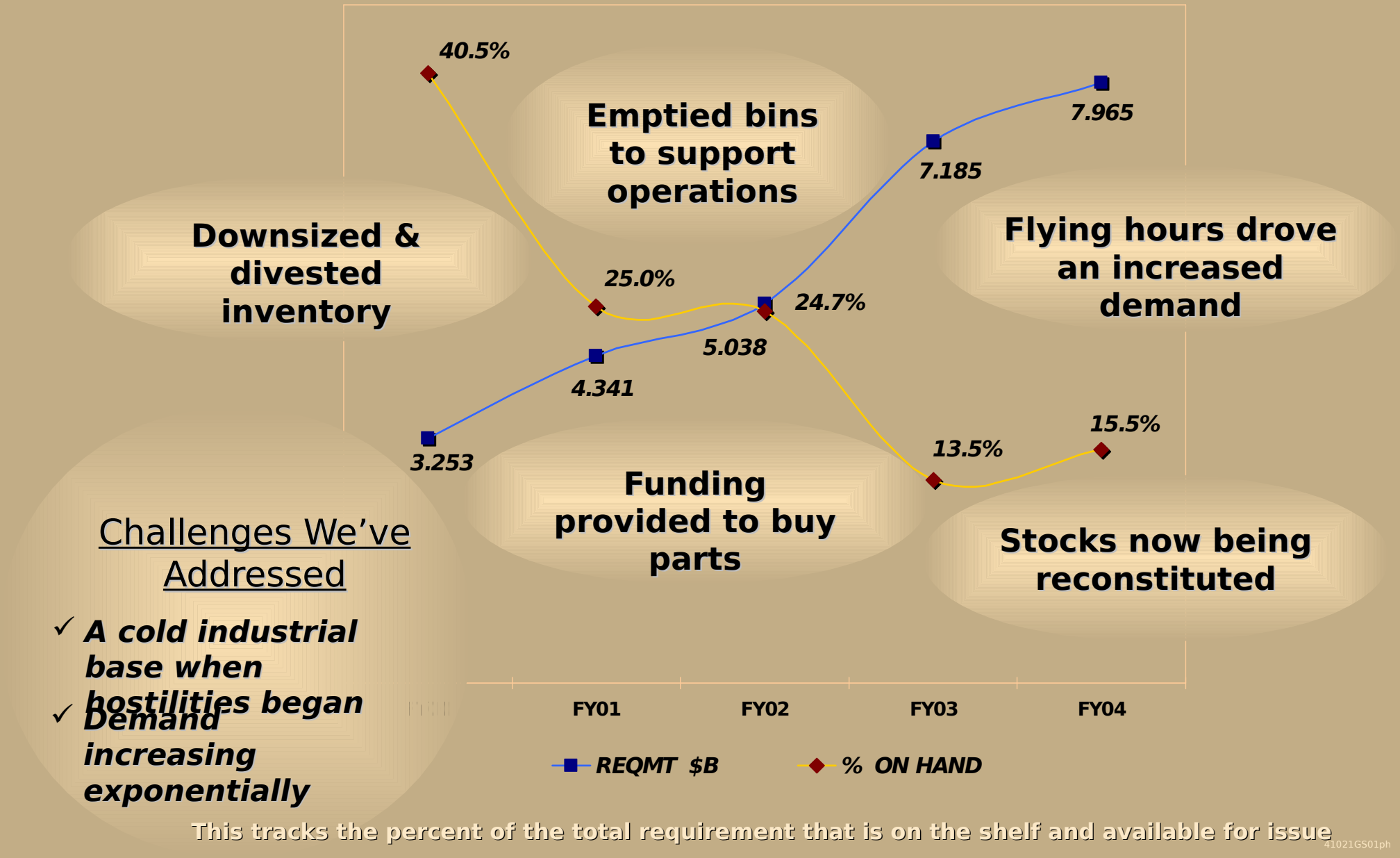
Inventories Now Trending In The *Right* Direction



Challenges We've Addressed

- ✓ ***A cold industrial base when hostilities began***
- ✓ ***Demand increasing exponentially***

This tracks the percent of the total requirement that is on the shelf and available for issue

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VILLE D' ORION
HAMBURG

ag-Lloyd

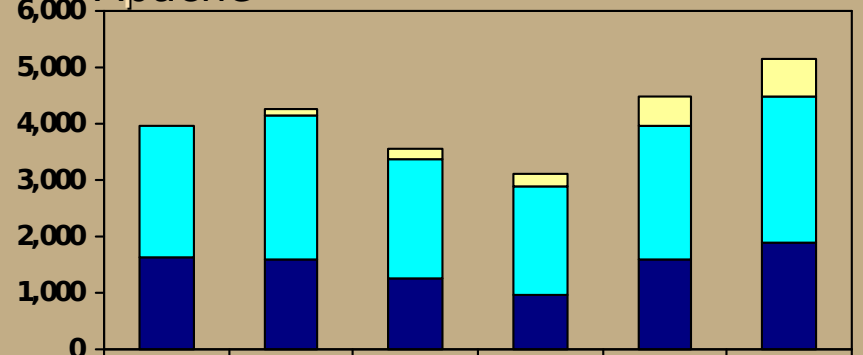
MAERSK
MAERSK
MAERSK

Backorder Trends

Recent History

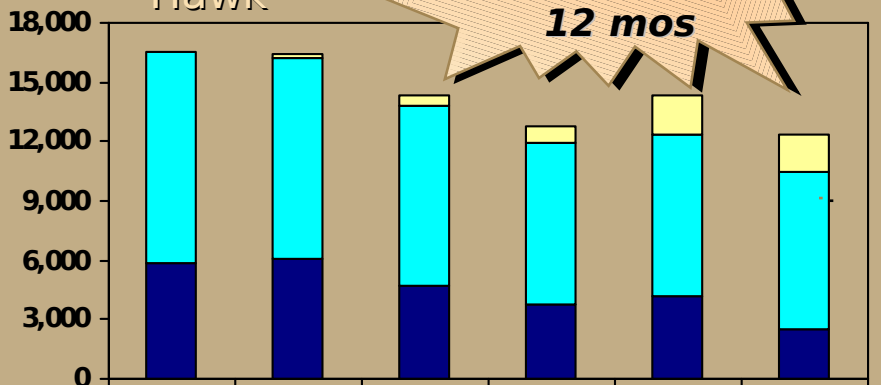
IPG1 reduced 33% over past 12 mos

Apache



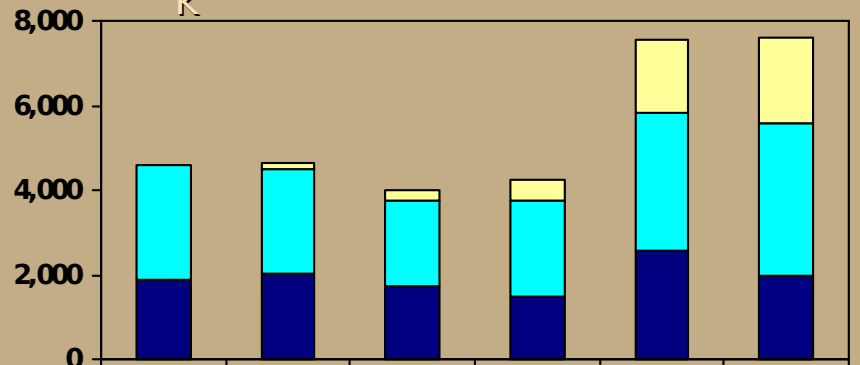
	Sep-03	Jan-04	Mar-04	Jun-04	Sep-04	Dec-04
Reset		77	210	207	530	654
IPG 2, IPG 3	2,324	2,582	2,097	1,929	2,381	2,581
IPG1	1,638	1,582	1,258	975	1,583	1,897

Black Hawk



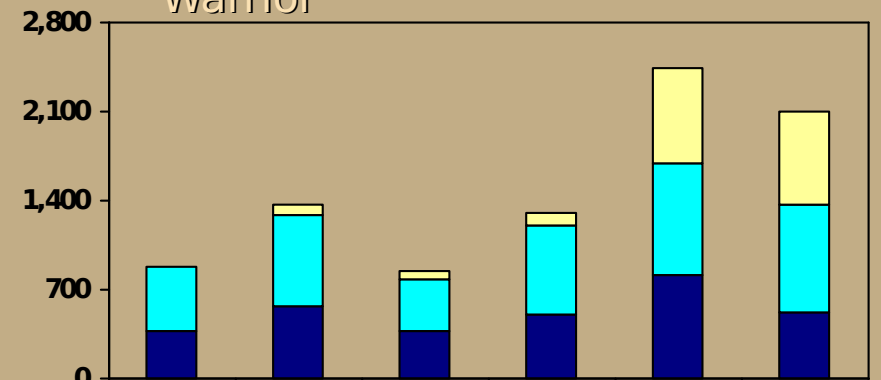
	Sep-03	Jan-04	Mar-04	Jun-04	Sep-04	Dec-04
Reset		233	585	886	2,039	1,938
IPG 2, IPG 3	10,747	10,150	9,056	8,159	8,162	7,916
IPG1	5,811	6,077	4,744	3,722	4,154	2,505

Chinook



	Sep-03	Jan-04	Mar-04	Jun-04	Sep-04	Dec-04
Reset		117	262	500	1,755	2,008
IPG 2, IPG 3	2,726	2,496	2,025	2,263	3,257	3,601
IPG1	1,891	2,015	1,721	1,479	2,549	1,982

Kiowa Warrior



	Sep-03	Jan-04	Mar-04	Jun-04	Sep-04	Dec-04
Reset		83	61	100	739	726
IPG 2, IPG 3	496	725	408	704	875	846
IPG1	376	563	370	503	821	521

Reset now constitutes single largest customer

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1/4 CAV, Baqubah, Iraq
A Warrior's "Thank You"

Dear Sir,

I am CW3 Robert Carpenter. I am writing to express my gratitude for the quality rotor blades that Bell has produced for my helicopter, the OH-58D Kiowa Warrior.

On April 7th, while flying a combat mission near the city of Baqubah, Iraq my KW was struck on one main rotor blade by an RPG (rocket propelled grenade). The RPG exploded and destroyed a 4 foot section, leaving about two feet of rotor blade on the end. The spar was also damaged and I still don't know how it held together.

Thank you.

v/r,
Robert Carpenter
CW3, U.S. Army

"...I am writing to express my gratitude for the quality rotor blades that Bell has

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What We Are Facing

Demands will increase from FY04 rates … which were an all time high

Support for OEF/OIF units has been exceptional, but improvements must extend to all aviation customers

The investments are yielding significant deliveries but problem items still must be targeted

Assessment

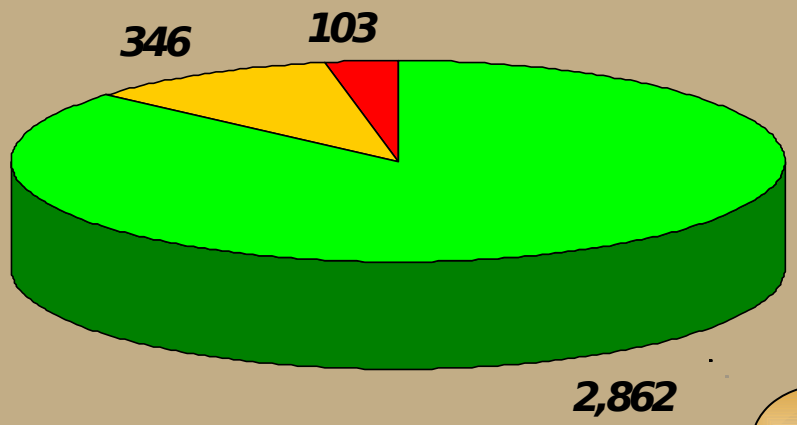
Fully Supportable Today

Partially Supportable Today/Fully Within 12 Months

Partially Supportable Today/Fully After 12 Months

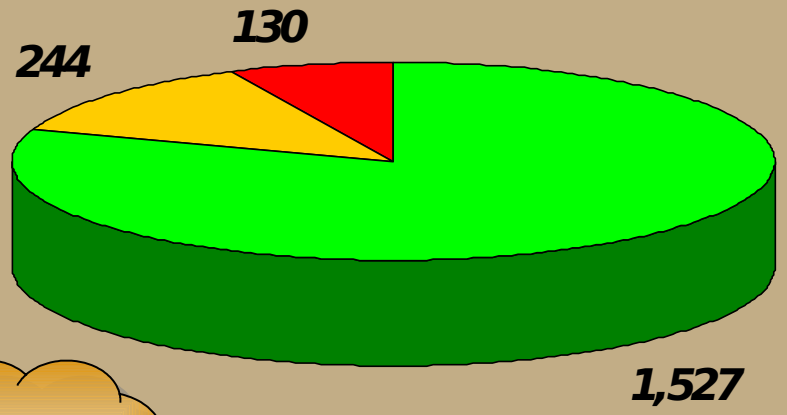
APACHE

Total Items - 3,311



CHINOOK

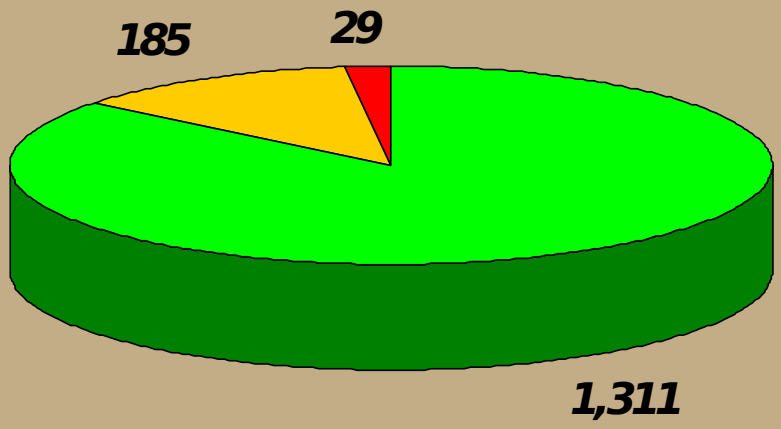
Total Items - 1,901



OVER 85% OF ALL ITEMS FULLY SUPPORTABLE

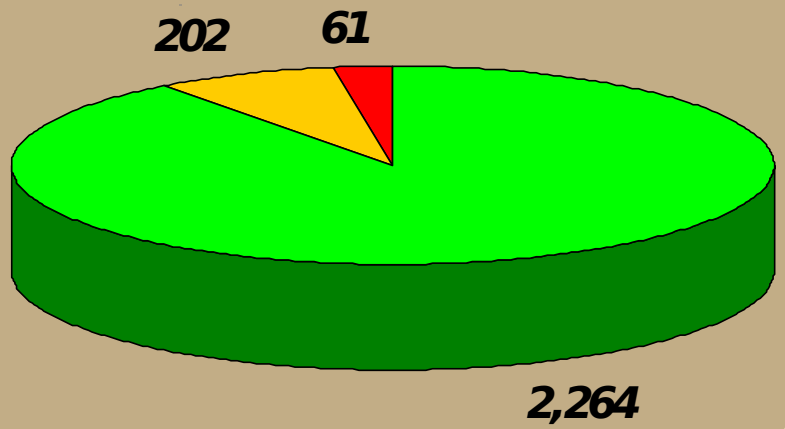
KIOWA

Total Items - 1,525



BLACKHAWK

Total Items - 2,527



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Tactical Focus Has Been On Warfighter

OIF I/OEF IV
(30 SEP 03)

643 Aircraft

268 Non-Mission Capable (NMC)

75 NMC Due to Supply

OIF II/OEF V
(14 FEB 05)

537 Aircraft

78 NMC

7 NMC Due to Supply

- **Emphasis now on “Preset” of aircraft prior to deployment**
- **OIF/OEF units first to receive critical parts delivered from industry**
- **Focusing on NMCS is the quickest means for AMCOM to influence theatre readiness**

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BACKORDER REDUCTION PLAN

17% Reduction in Requisitions

34% Reduction in Quantities

WE'RE AHEAD OF OUR PLAN – BACKORDERS AT $1,032M a/o 17 FEB

Sep-04
$239M
$274M

Sep-05 GOAL
$173M

Sep-04
$447M
$329M

Sep-05 GOAL
$322M

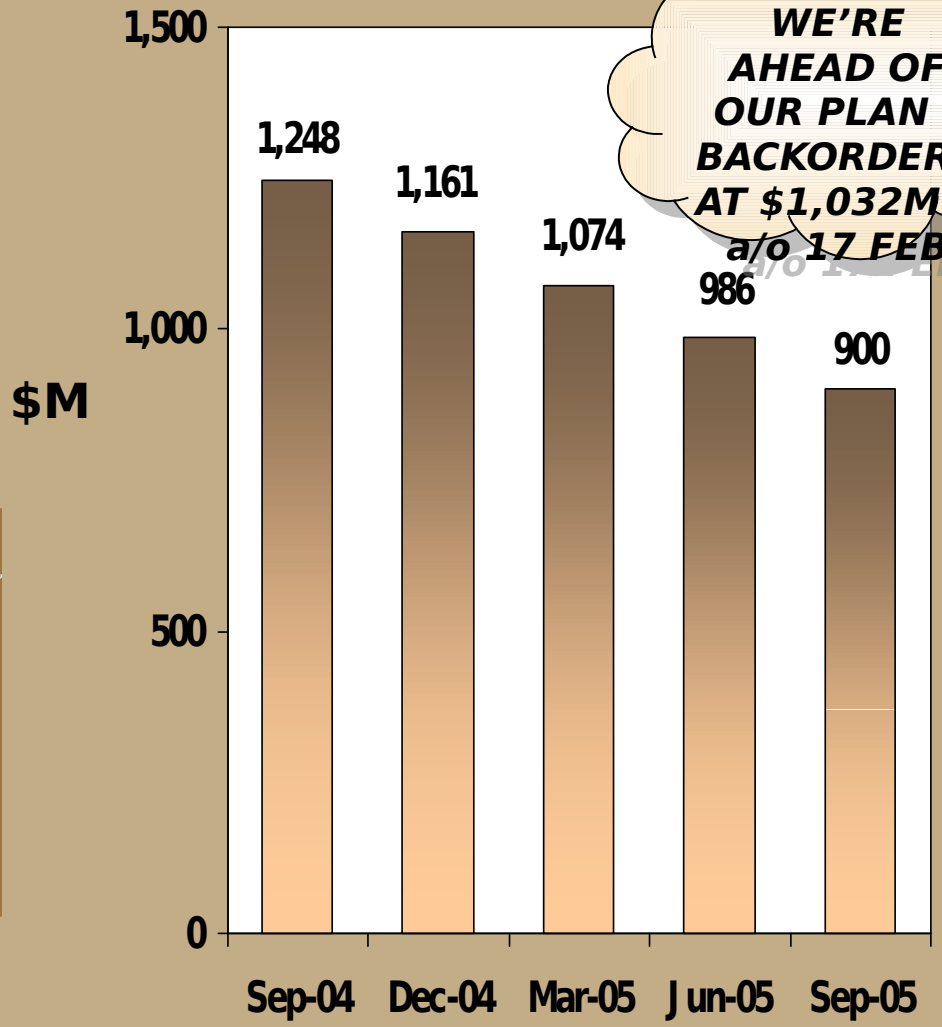
Sep-04
$388M
$303M

Sep-05 GOAL
$280M

& NFM

Sep-04
$174M
$126M

Sep-05 GOAL
$125M



What Customers Have Seen Over the Past 12 Months

$350M+ in engines, transmissions, blades, and APUs received over past 180 days - additional $800M being delivered over next 36 mos

On hand inventory for Top 18 readiness drivers up $58M

	Backorders Decreased	Assets Available for Issue Increased
701C Engine	**35%**	**60+**
Blackhawk APUs	**66%**	**86%**
Chinook APUs	**22%**	**200%**
Blackhawk		
A Transmissions	**35%**	**200%**
L Transmissions	**35%**	**200%**

Leading edge maintenance on Blackhawk Main Rotor Blades

"Preserving Valuable Assets"

Blackhawk Solenoid Valve	**$3.8M**
Kiowa Warrior Power Supply	**$5.6M**

Industry Has Responded

Top 25 Apache & Chinook Items

- **Schedule improvements ranged from 10-80%**
- **Rotor Shaft**
  - **Yield increased 64%**
  - **Production lead time decreased 83%**
- **Blade**
  - **Production cycle decreased from 23 to 10 months**

Sikorsky Blackhawk

- **Production improved across the board**
- **Main Blade**
  - **Production has increased from 20 to 75/month**
- **Tail Blades**
  - **Production has increased from 20 to 60**
- **Structural Supports** ***(Top Reset Item)***
  - **Ramped from a cold case of 20/mo to 200/month by JAN 05**

Kiowa Warrior

- **Repair turn-around improved 68%**
- **Mast Mounted Sight**
  - **Production time reduced 44%**

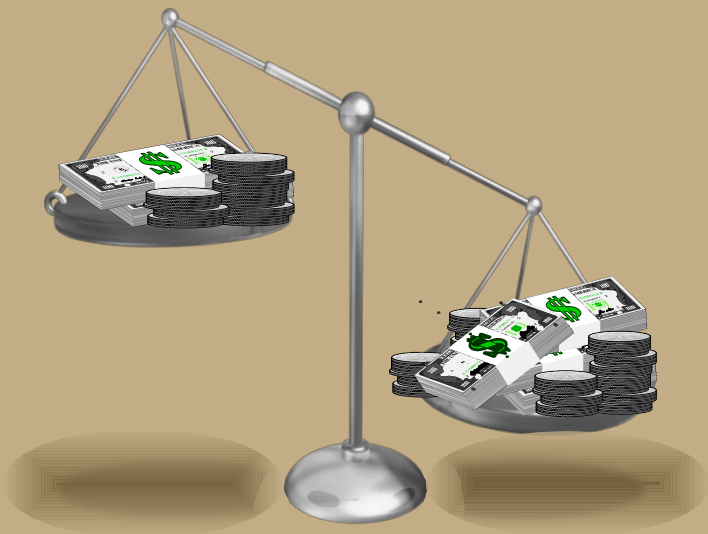
Organic Depot Capacity

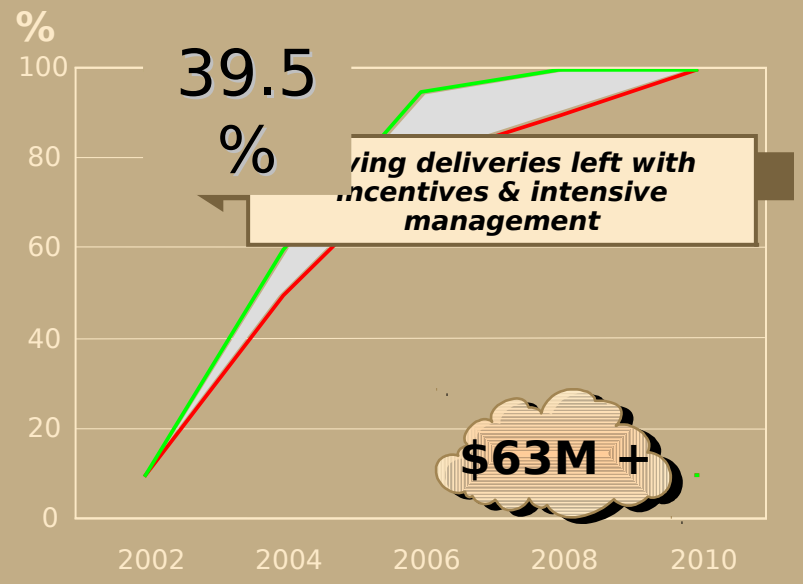
- **Expanding through partnership contracts with industry**

The Focus Is On Production

$M Deliveries		Investment
$280.6	Sikorsky	**$1,022.6**
44.4	Lockheed	**476.4**
694.8	GE	**839.8**
112.4	Boeing, Phil	**458.6**
83.8	Boeing, Mesa	**264.2**
182.2	Honeywell	**386.1**
75.3	Parker Hannifin	**218.8**
64.1	DRS Tech	**170.4**
30.0	Bell	**178.6**
47.2	Raytheon	**74.9**
$1,614.8		***$4,090.4***

Total
All Suppliers
$5,869.0





Long Lead Items

What We Are Facing

Demands will increase from FY04 rates … which were an all time high

Support for OEF/OIF units has been exceptional, but improvements must extend to all aviation customers

The investments are yielding significant deliveries but problem items still must be targeted

Limited supplier base and age of technologies challen more aggressive accelerations

Production Issues We're Addressing

- Castings and forgings have leadtimes ranging from 12-36 mos
  - **Alcoa only source of aluminum forgings for 58D Rotor Heads - minimum 40 week leadtime**
  - **New sources want assurance of future business to justify investing facilitization capital**
  - **We've used RIA and are qualifying vendors via our Prototype Integration Facility (PIF)**
- 2nd & 3rd tier vendor base diminishing while existing sources are saturated
  - **Timken only qualified sources for certain bearings**
  - **Primes, OEMs, and depots chasing the same single sources for piece parts**
  - **Qualification process for new sources requiring First Article Test (FAT) and/or Product Verification Audit (PVA) being streamlined**
- Certain Critical Safety Items (CSI) require raw materials with limited availability
  - **Titanium sheaths for blades and ESR steels for gears**
  - **Long-lead material now being funded where appropriate**
- Depot production offers most expedient deliveries
  - **Unserviceables delayed in theatre – combination of TASM and Desert Express have improved performance**
  - **CCAD Partnerships have enabled component production**

The VOLS SUCK!
ROLL TIDE
ROLL!